IEEE TRANSACTIONS ON

ANTENNAS AND PROPAGATION

A PUBLICATION OF THE IEEE ANTENNAS AND PROPAGATION SOCIETY

SEPTEMBER 2024 VOLUME 72 NUMBER 9 IETPAK (ISSN 0018-926X)

PAPERS

Antennas

A Millimeter-Wave Wideband Dual-Polarized Magnetoelectric Dipole Phased Array With Scan Blindness Mitigation . . . . . *L. Zhao, Y. Li, M. Chen, and J. Wang*

A High-Gain Aperture-Shared Dual-Band Circularly Polarized Antenna Using Polarizer Integrated Dual-Functional Surface . . . . . *Q.-Y. Guo, P. Chen, M. Liang, G.-H. Sun, and G.-B. Wu*

Millimeter-Wave Dual-Band Filtering Patch Antenna and MIMO Array Using Multinull Resonator . . . . . *X. Yin, P. F. Hu, K. W. Leung, Y. M. Pan, N. Yang, and K. Lu*

Temporal Interference Wireless Power Transfer Strategy With Passive Flexible Electrode for Vagus Nerve Stimulation . . . . . *X. Yang, P. Gao, H. Zhang, J. Zhao, T. Wang, and G. Xu*

Decoupling of Axial Symmetric Three Antennas Based on Active Impedance Matching . . . . . *Z. Cao, L. Chang, Y. Li, K. Wei, and Z. Zhang*

Mode Conversion for Broadband Mutual Coupling Suppression of a Slot-Fed Metasurface Mosaic Antenna . . . . . *D. Yang, Z. N. Chen, J. Yin, and P. Liu*

Amplitude Modulation Scheme for an Acoustically Actuated Magnetoelectric Antenna Using Field-Dependent Magnetomechanical Effect . . . . . *J. Qiao, J. Wu, Y. Du, Y. Xu, H. Bai, Z. Wang, W. Cui, Z. Hu, and M. Liu*

Generation of Higher-Order OAM Waves With Single-Point Fed Circular Microstrip Antenna Using Bifurcated Cylindrical Harmonics . . . . . *D. S. Gyan, K. P. Ray, and A. K. Poddar*

Design of an Ultrawideband Air-Filled Grounded Coplanar Waveguide for Near-Field Probe Calibration . . . . . *K. Hu, Z. Yan, F. Zhao, S. Ma, C. Fu, and R. Cui*

Single-Layer Broadband Vertically Polarized Endfire Magnetoelectric Dipole Loop Antenna and Array for Millimeter-Wave Applications . . . . . *Y. Z. Tian, Y. M. Pan, and K. X. Wang*

Quantum-Inspired Algorithm Enhances Efficiency in Antenna Optimization . . . . . *F. Peng and X. Chen*

Multibeam Hybrid Transmitarray Based on Polarization Rotating Metasurface With Reconfigurable Bidirectional Radiation . . . . . *F. Qin, Y. Liu, C. Gu, L. Zeng, W. Cheng, H. Zhang, and S. Gao*

Wireless Continuous Glucose Monitoring Using V-Band Circularly Polarized Directive Antenna Arrays in a Transmit/Receive System . . . . . *H. M. Farhat, J. Costantine, Y. Tawk, R. Kanj, A. H. Ramadan, B. Dia, J. Ghaddar, and A. A. Eid*

Distributed Mobile Antennas: A Novel Miniaturized Wideband Antenna Strategy to Maximize the Use of the Fragmented Spaces of the Mobile Terminals . . . . . *S. Gao, L. Chang, S. Gao, and A. Zhang*

Super Realized Gain Antenna Array . . . . . *D. P. Lynch, M. M. Tentzeris, V. Fusco, and S. D. Asimonis*

Broadband Transreflective Metasurface for Multifunctional Dual-Band OAM Engineering . . . . . *T. Huang, Z. Wu, S. Huang, Z. Wen, W. Jiang, J. Xu, J. Wang, and Y. Luo*

Hepta-Mode Terminal Microstrip Antenna for Mobile Wi-Fi 6/6E and UWB Channels 5–11 MIMO Applications . . . . . *K. Li, Y. Zhang, and Y. Li*

A Low-Cost Optimization Method for 2-D Antennas Using a Disassemblable Convolutional Neural Network . . . . . *F. Peng and X. Chen*

Design of Frequency-Reconfigurable and Decoupled Dual-Port Single-Radiating Patch Antennas Using Characteristic Mode Analysis . . . . . *K. Gao, Y. Zhou, T. Li, H. Yang, S. Li, and X. Cao*

A Balloon Conformal Heterogeneous Array Antenna with Ultrawide Bandwidth and Half-Space Beam Coverage . . . . . *C. Ding, X. Gao, W. Tang, H. Liu, C. Zhu, X. Bu, and J. An*

Arrays and Periodic Structures

Scanning Quasi-Nondiffractive Beam Enabled by Low-Profile Source-Integrated Launcher Based on Metasurface . . . . . *Q.-S. Jia, S. Ding, L.-M. Zhang, X. Han, Z.-J. Zhu, Q.-L. Zhang, B.-Z. Wang, and M. Bozzi*

A Dual-Circularly Polarized Reconfigurable Reflectarray Antenna With Independent Beam Scanning Capability . . . . . *S. Zhou, F. Yang, S. Xu, and M. Li*

Waveguide-Floquet Mapping Using Surface Susceptibilities for Passive and Active Metasurface Unit-Cell Characterization . . . . . *P. Sakyi, J. Dugan, D. Kundu, T. J. Smy, and S. Gupta*

Ultrathin Single-Layer Dual-Band Dual-Circularly Polarized Reflectarray for *K-/Ka*-Band Satellite Communications . . . . . *P. Xu, R. Li, H. Liu, K. Zhang, H. Xue, and L. Li*

A Polarization-Insensitive Rectifying Surface for 2.4 GHz WLAN Band RF Energy Harvesting . . . . . *H.-Y. Wang, F. Cheng, Y. Yang, X. Chen, L. Wu, C. Gu, and K. Huang*

High-Flexibility Low-Complexity Reprogrammable Phase-Continuous Metasurface . . . . . *H. Yang, Q. Hu, Y. Rao, W. Zhong, and X. Y. Zhang*

A Reconfigurable Metasurface With Precise Phase Distribution for Both Transmission and Reflection Functions . . . . . *C. Zhang, Y. Luo, N. Yan, X. Guo, Y. Guo, and K. Ma*

Angular Dispersion Analysis of Frequency-Selective Surfaces Based on Wavevector Domain Equivalent Impedance . . . . . *Y. Yang, B. Zhang, F. Yang, S. Xu, and M. Li*

Electromagnetics

Synthesis of Oversized Smooth-Walled Horns via Phase Rematching Method . . . . . *X. Liao, M. Wang, S. Huang, C. Zhao, and Z. Wu*

A Long Short-Term Memory Approach to Incorporating Multifrequency Data Into Deep-Learning-Based Microwave Imaging . . . . . *B. Martin, C. Gilmore, and I. Jeffrey*

Numerical Methods

Constrained Pseudoinverses for the Electromagnetic Inverse Source Problem . . . . . *E. Citraro, P. Ricci, A. Dély, A. Merlini, and F. P. Andriulli*

Equivalent Circuit-Guided GAN Sample Generation of Metasurface for Low-RCS Scanning Array . . . . . *Z.-X. Liu, W. Shao, X. Ding, B.-Z. Wang, L. Peng, and Z. N. Chen*

A Multiregion SIE Solution for Scattering From Hypersonic Vehicle With Plasma Sheath Based on Piecewise Homogeneous Modeling . . . . . *Y.-H. Chen, H.-W. Zhang, X.-W. Huang, J.-G. Liu, and X.-Q. Sheng*

Wave Propagation and Scattering

Spectral Domain Optical Theorem and Radiative Transfer in Random Media With Large-Scale Fluctuations . . . . . *S. Mudaliar*

Tomographic Imaging of Meta-Shells . . . . . *G. Samelsohn*

Characterizing Range-Dependent Variations of the Evaporation Duct: A Meteorological Perspective . . . . . *D. P. Greenway, A. E. Vaughan, A. J. Kammerer, and E. E. Hackett*

A Gain-Reconfigurable Reflector Antenna With Surface-Mounted Field-Induced Artificial Magnetic Conductor for Adaptive HIRF Prevention . . . . . *S. Zha, Z. Qu, J. Zhang, D. Zheng, and P. Liu*

Cylindrical Microwave Body Scanner—–Part I: System Configuration and Image Reconstruction . . . . . *W. Shao and B. Zhou*

Cylindrical Microwave Body Scanner—Part II: System Evaluation by Image Quality Assessment . . . . . *W. Shao and B. Zhou*

3-D Geometric-Based Indoor Stochastic Modeling Using Inverse Parabolic Scatterer Distribution . . . . . *A. Kaushal, V. W. Paradkar, and J. Mukherjee*

COMMUNICATIONS

Single-Layer and Wideband Filtering Antenna With Small Footprint Based on Nonuniform Grid Array . . . . . *Y.-L. Lang, D. Yi, and M.-C. Tang*

A Miniaturized Wearable Annular Slot Antenna Based on Designer LSPs for Telemedicine Communication . . . . . *C. Zhang, Z. Zhao, P. Xiao, Q. Liu, N. Wang, and G. Li*

W-Band Wideband Transmit-Array Antenna Based on Multiresonance Multimode Huygens Metasurface . . . . . *X. He, W. Yang, Y. Li, Q. Xue, and W. Che*

An Ultrawideband H-Plane Monopulse Log-Periodic Antenna for Jamming Signal Finding . . . . . *W. Diao, R. Li, Y. Li, and Z. Zhang*

Design of High-Scanning-Rate and Full-Space-Scanning Leaky Wave Antenna Utilizing the Manipulation of Slow Wave Dispersion Curve . . . . . *H.-H. Zhang, J. Ren, W. Li, X.-Y. Sun, R. He, and Y. Yin*

On-Chip Miniaturized Cavity V-Band Coplanar Folded Slot Array With High Efficiency and Reduced Mutual Coupling . . . . . *S. Y. Lee, D. L. West, S. A. Dasari, and N. Ghalichechian*

Active–Passive Reconfigurable Antenna Covering 70–7200 MHz Bandwidth . . . . . *S.Wang, Z. Liu, Y. Zhang, and Y. Li*

Wideband High-Gain Metasurface Antenna Array Loaded With Substrate Integrated Cavity for X-Band Applications . . . . . *Z.-G. Yan, P. Lei, Z.-Q. Liao, W.-Z. Lu, and X.-C. Wang*

Design of Octa-Band Mobile Antenna in Metal-Bezel Smartphone With Wide Beamwidth in the Endfire Direction for n256-Band Satellite Communications . . . . . *S. Rao and Y. Wang*

Circularly Polarized High-Gain K-Band Liquid Crystal Phased Array Antenna . . . . . *J. Liu, F. Liang, Y. Wang, X. Ni, X. Wang, D. Zhao, and B.-Z. Wang*

Widebeam Dielectric Resonator Antenna for Wide-Angle Beam-Scanning Phased Array Based on Electromagnetic Complementarity Principle . . . . . *W. Li, J. Ren, H.-H. Zhang, Y. Lu, Y. Liu, and Y. Yin*

Constrained Infinitesimal Dipole Modeling-Assisted Ensemble Prediction of Embedded Element Patterns via Machine Learning . . . . . *N. B. Onat, I. Roldan, F. Fioranelli, A. Yarovoy, and Y. Aslan*
Electronically Reconfigurable Filtering Reflectarray Antenna Using Polarization Conversion Elements With Controllable Conversion Zeros . . . . . *W. Fu, Y. Cai, P. Mei, G. F. Pedersen, and S. Zhang*
Multibeam Higher-Order Space-Harmonics-Enabled Leaky Wave Antenna Using Microstrip Phase Delay Lines . . . . . *Y. Zhang, Y. Yao, J. Hu, E. Forsberg, and S. He*
Millimeter-Wave Quasi-Elliptical Bandpass FSS Using Macro Cells . . . . . *H. Jiang, Z. Zhang, Y. Zhang, M. Qian, S. Liao, and Q. Xue*
A Microwave/Millimeter-Wave Shared-Aperture Filtering Antenna With Reused via Structure . . . . . *J.-X. Chen, J.-Y. Yang, X.-H. Ding, T.-Y. Yan, Y.-L. Li, and W.-W. Yang*
A Wideband High-Efficiency Side-Connected Magnetoelectric Dipole Antenna Array Using Novel Feeding Technology for W-Band . . . . . *W. Tan, Y. He, H. Luo, G. Zhao, and H. Sun*
A General Analytical Arrangement for Large-Spacing Planar Scanning Array Grating Lobe Suppression Based on Energy Homogenization Theory . . . . . *Y. Zeng, X. Ding, X.-L. Ye, F. Costa, G. Manara, and S. Genovesi*
Broadband RCS Reduction, Antenna Miniaturization, and Bandwidth Enhancement by Combining Reactive Impedance Surface and Polarization Conversion Metasurface . . . . . *Q. Zheng,W. Liu, Q. Zhao, L. Kong, Y.-H. Ren, and X.-X. Yang*
A Lightweight Segmented RFID Tag Antenna With a Combined Ferrite Core for Underground Applications . . . . . *J. Liang, C. Wu, J. Zhu, B. Tao, and Z. Yin*
A Hybrid SI-FDTD Method to Analyze Scattering Fields From Underwater Complex Targets . . . . . *M. Yang, K. Liu, K. Zheng, Q. Wu, and G. Wei*
Out-of-Distribution Domain Exploration by a Multifidelity Deep Learning Model to Estimate Electromagnetic Responses of Metasurfaces . . . . . *N. Wang, G. Wan, Q. Ding, and X. Ma*
Efficient Characteristic Mode Analysis Based on Data-Sparse Matrix Algorithm . . . . . *T. Wan, W. J. Wang, Y. Bao, and Y. F. Chen*
Reconfigurable Metasurface Reflectors Using Split-Ring Resonators With Co-Designed Biasing for Magnitude/Phase Control . . . . . *M. K. Emara, D. Kundu, K. Macdonell, L. Rufail, and S. Gupta*

COMMENTS AND CORRECTIONS

Erratum to “Improved Chebyshev Spectral Method Modeling for Vector Radiative Transfer in Atmospheric Propagation” . . . . . *E. Tavanti, D. D. Caviglia, and A. Randazzo*
Corrections to “Increasing the Bandwidth of Antennas Based on the Frequency Pulling Technique: Theoretical Limitations and Practical Considerations” . . . . . *A. G. Koutinos, C. L. Zekios, S. V. Georgakopoulos, and G. A. Kyriacou*